

WHAT IS CLAIMED IS:

1. In an image processing system, a method for relating a first image to a second image comprising the acts of:

(a) aligning the first image with a second image; and,
(b) plotting the gray level of a pixel from the first image against the gray level of a corresponding pixel from the second image for all aligned pixel locations.

2. The method of claim 1 further comprising the act of plotting a threshold window on a plot created in act (b).

3. The method of claim 1 wherein a plot created in act (b) is stored in a memory array variable.

4. The method of claim 1 wherein a plot created in act (b) is displayed on a video monitor.

5. A computer-readable medium storing a program for carrying out the method of claim 1.

6. A computer-readable medium comprising:

a plurality of memory locations storing data representing a first image and an associated second image, said first and second images each having a plurality of pixels with each pixel being defined by a location coordinate and a gray level; and,

an array comprising a plurality of memory locations storing data representing a plot of the gray levels of pixels from the first image against the

gray levels of corresponding pixels from the second image.

7. A defect inspection system comprising:
- 5 (a) an image acquisition unit being operable to acquire a first image and an associated second image, the first and second images each having a plurality of pixels with each pixel being defined by a location coordinate and a gray level;
- 10 (b) a plurality of memory locations storing data representing the first image and the second image; and,
- (c) a processor being operable to plot the gray levels of pixels from the first image against the gray
- 15 levels of corresponding pixels from the second image.

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